

# Kenneth Ng

## FULL-STACK SOFTWARE ENGINEER, AI PLATFORMS & CLOUD INFRASTRUCTURE

5+ years of experience building AI-enabled clinical platforms, production web applications, and data pipelines. Focused on applied AI integration, complex data workflows, and shipping reliable systems from prototype to production.

### CONTACT INFORMATION

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### SKILLS

**Languages:** Python | TypeScript | JavaScript | Ruby | SQL

**Frontend:** React | Redux | Vite | Three.js | CSS/SCSS

**Backend:** FastAPI | Flask | Node.js | Ruby on Rails | REST APIs | Salesforce REST API | WebSockets

**Data & AI:** PostgreSQL | MongoDB | Redis | SQLAlchemy | Azure Document Intelligence | Azure OpenAI | DSPy

**Cloud & Infra:** Amazon Web Services (AWS ECS, Batch, Lambda, S3) | Azure Blob Storage | Azure Service Bus | Azure Event Grid | Azure Static Web Apps | Aptible | Terraform | Docker | CircleCI | GitHub Actions | Nginx

**Testing & Quality:** pytest | Jest | RSpec | Ruff | ESLint | Prettier

### WORK EXPERIENCE

#### Kaliber AI, San Mateo, CA

##### Full-Stack Software Engineer | 01/2022 - Present

##### Clinical Document Intake & Perioperative AI Workflow

- Owned end-to-end architecture and delivery of a pre-admission clinical document intake platform, turning hospital referrals into reviewed admission reports and smart clinical summaries. Scaled to 60+ hospital users and 2,500+ processed cases within 6 months, directly supporting renewal of a major enterprise hospital account.
- Reduced clinical document review time by 85% by building the automated path from referral to editable report. PDFs are stitched in Azure Blob Storage, routed through Azure Event Grid and Service Bus, summarized with Azure Document Intelligence and Azure OpenAI GPT-4o, reviewed in a React/FastAPI/PostgreSQL app, and submitted back to Salesforce.
- Extended the review workflow into perioperative surgical cases with an Azure OpenAI/DSPy assistant that answers source-backed questions over case data, clinical documents, and provider guidance while preserving conversation history for review continuity.
- Made the platforms production-ready with idempotent processing, stale-run recovery, SAML SSO, role-based access control, audit trails, Slack monitoring, and Docker/Terraform/CircleCI deployment pipelines.

##### LLM Evaluation Platform

- Built an internal LLM evaluation platform for 10+ ML engineers and subject matter experts, using Ruby on Rails, PostgreSQL, and React/Redux to process 1,000+ evaluations per month and reduce manual assessment time by 70%.
- Moved model review out of spreadsheets into versioned evaluation rounds with SME corrections, reference-document comparison, result dashboards, role-based access control, and audit logging.
- Owned the prototype-to-production rollout across dev, staging, and production, covering CI/CD, database migrations, environment-scoped secrets, health checks, staged rollouts, and rollback paths.

##### Surgical Media & Post-Operative Care Platform

- Worked on a cross-functional product engineering team that scaled a surgical media platform to 600+ surgeons across partner hospital networks, turning surgeon-captured procedure media into reviewed, patient-facing post-operative care materials.
- Built the core review workflow across Rails/PostgreSQL and React/Redux, including case creation, procedure metadata, direct S3 uploads, and status transitions from processing and QA through surgeon review and patient delivery.
- Integrated AWS Batch processing for annotated media outputs and generated patient-facing reports, with Slack alerts for operational visibility across surgical media workflows.

##### Surgical Annotation Migration & Retraining Data Ops

- Owned migration of 8,000+ videos, 6,000+ images, and 25,000+ annotations across Darwin, SuperAnnotate, and Encord, preserving labeling continuity for 4 surgical AI models and completing both platform transitions with zero data loss.
- Built Python conversion and import tooling across Darwin, SuperAnnotate, Encord JSON, and COCO formats, preserving schemas, ontology mappings, tags, classifications, timestamps, and frame-level video labels so retraining datasets remained usable across vendors.

##### Multimodal Conversational AI Platform

- Owned deployment and operations for a multimodal voice and video AI platform, building gated CircleCI release workflows that packaged services into ECR and deployed them to AWS ECS on GPU-backed EC2/ASG infrastructure with Amplify-hosted frontend releases.
- Strengthened production WebSocket services for real-time ASR, TTS, VAD, and emotion-aware AI sessions by hardening Styche authentication, improving environment management, auditing deployments, validating CloudWatch health signals, and troubleshooting GPU runtime issues.

##### Software Engineer Intern | 01/2021 - 12/2021

- Built and maintained S3-backed media operations workflows for upload, search, tagging, review, export, dashboards, training-data logs, and annotation traceability.
- Modernized platform infrastructure by migrating 120 users from Firebase to Auth0 with zero downtime and no data loss, while moving storage, hosting, and CI/CD from Google Cloud Storage, Google Compute Engine, and Google Cloud Build to AWS S3, Aptible, and CircleCI.
- Added browser-based 3D and spatial labeling workflows in React, Three.js, and Flask so users could visualize DICOM, NIFTI, and STL medical files directly in the media dashboard.

- Built an AWS Lambda integration for SuperAnnotate review, generating presigned S3 URLs so protected surgical videos could be accessed by external annotation workflows without exposing storage credentials.
- Built a Darwin export webhook in AWS Lambda that stored raw metadata in S3 and wrote parsed annotation records into MongoDB for traceability across datasets, annotators, reviewers, classes, and frame counts.

## **EDUCATION**

**National University of Singapore, Singapore**

**Bachelor of Computing (Honours), Computer Science | 12/2022**

Honours (Distinction) | Focus: Computer Security | NUS Overseas Colleges Silicon Valley program combining a full-year startup internship with entrepreneurship coursework at NUS

**McGill University, Montreal, Canada**

**Exchange Student, Computer Science | 01/2020 - 04/2020**

## **LEADERSHIP**

**Singapore Military Police, Singapore**

**Corporal First Class | 05/2016 - 02/2018**

- Led operations within the elite Damage Control Unit at the Singapore Ministry of Defence building, coordinating security response across senior officers and internal departments for a sensitive national defense facility.
- Maintained incident readiness and smooth building operations throughout service, contributing to zero security incidents during assigned duty periods.